United Nations E/CN.3/2002/20

Economic and Social Council

Distr.: General
11 January 2002

Original: English

Statistical Commission
Thirty-third session
5-8 March 2002
Item 7 (a) of the provisional agenda*
Activities not classified by field: international economic and social classifications

International economic and social classifications

Report of the Secretary-General

Summary

The present report was prepared at the request of the Statistical Commission at its thirty-second session.[a] It provides an overview of how the recommendations of the Commission concerning international statistical classifications have been addressed since that session.

Points for discussion by the Commission are contained in paragraph 38.

[a] See *Official Records of the Economic and Social Council, 2001, Supplement No. 4* (E/2001/24), chap. I, sect. A.

* E/CN.3/2002/1.

02-21891 (E) 190202

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I. Status of recommendations

A. Recommendations on international classifications made by the Statistical Commission at its thirty-second session

1. At its thirty-second session, the Statistical Commission:

(a) Agreed with the proposed work programme and time frame for updating the International Standard Industrial Classification of All Economic Activities (ISIC) and the Central Product Classification (CPC) by 2002 and for planning their revision by 2007, and stressed the importance of reaching convergence of major activity classifications by 2007 (see paras. 5-17 below);

(b) Agreed with the suggestions of the Technical Subgroup to the Expert Group on International Economic and Social Classifications in respect of the scope of the changes to ISIC and CPC (see para. 5 below);

(c) Suggested that the Expert Group consider the possibility of further synchronizing and coordinating the revision of classifications supporting production and trade statistics (e.g., the Central Product Classification, the Harmonized Commodity Description and Codes System (HS) and the Balance of Payments Classification) so that resulting data becomes more comparable (see paras. 13 and 22 below);

(d) Emphasized the need for alternate industry aggregations for analytical purposes (see paras. 5 and 20 below);

(e) Recommended that the Expert Group further consider the identification of a useful level of detail for an international classification, possibly expanding in the area of services;

(f) Noted the need to keep developing countries involved in the work process;

(g) Recommended that the high costs of implementing a revised classification be considered in the revision process;

(h) Noted the need for increased activities relating to implementation assistance (see para. 14 below);

(i) Noted the need for monitoring country implementation of ISIC and CPC (see para. 21 below);

(j) Requested a more detailed work plan for the 2007 revision of ISIC and CPC (see paras. 6-12 below).

B. Activities carried out in response to the requests of the Commission

2. The activities carried out in the area of statistical classifications since the thirty-second session of the Statistical Commission are described below.

1. Meetings of the Expert Group on International Economic and Social Classifications and its Technical Subgroup

3. The Expert Group on International Economic and Social Classifications met from 18 to 20 June 2001 in New York. The objectives of the meeting were threefold: to discuss the work in the Expert Group with a view to fostering collaboration and coordination within the family of international economic and social classifications, to discuss and review the upcoming updates and revisions of ISIC and CPC, and to address the implementation of international economic and social classifications. Major input was provided through the documents prepared by the Technical Subgroup of the Expert Group, based on previous requests by the Expert Group, including the drafts for the updated ISIC, Revision 3.1, and CPC, Version 1.1, as well as the report of the Technical Subgroup containing a proposal for the work programme for the 2007 revisions. The conclusions and recommendations of the Expert Group are contained in the annex to the present report.

4. The Technical Subgroup met twice in the past year, from 26-30 March 2001 and, in conjunction with the meeting of the Expert Group, on 21 and 22 June 2001. A third meeting, planned for October 2001, was postponed to early 2002. At its meetings, the Technical Subgroup considered further proposals received by the United Nations Statistics Division on the 2002 updates of ISIC and CPC, resulting in a draft classification that was presented to the Expert Group in June 2001. Further discussions in the Technical Subgroup focused on possible structures, scope and linkages of future classifications.

2. International Standard Industrial Classification of All Economic Activities and Central Product Classification

5. The International Standard Industrial Classification of All Economic Activities and the Central Product Classification have been updated based on previous recommendations by the Statistical Commission and the Expert Group on International Economic and Social Classifications. The final drafts of ISIC, Revision 3.1 and CPC, Version 1.1 will be made available to the Commission as background documents.

6. The first steps in the revision process for ISIC and CPC for 2007 have been undertaken. The Expert Group has discussed proposals by its Technical Subgroup for the work process for the revisions. The Expert Group has agreed to the proposal and has begun work for the initial step of the process.

7. The proposal covers an initial period of input collection from interested parties, specifically on conceptual issues for the revision. The Technical Subgroup will review the responses, and based on those previous discussions and recommendations by the Expert Group, will prepare a conceptual paper in 2002, that outlines the scope of the changes intended. That paper will form the basis for future work in the revision process.

8. The convergence process between the North American Industry Classification Process (NAICS) and the General Industrial Classification of Economic Activities within the European Communities (NACE) (see below) needs to be considered as a major input even at this early stage. Since the convergence process has so far taken the form of a study without binding agreements, the Commission may wish to discuss how that process should be linked to the ISIC revision process.

9. A questionnaire on conceptual and structural issues for the ISIC revision has been prepared and disseminated to 243 countries and organizations. The questionnaire is the first step in the revision process and allows all countries to participate in the revision process and address their specific concerns. A summary of the questionnaire responses will be made available to the Commission.

10. After reconciliation of the input received through the original questionnaire and responses to the conceptual paper, a preliminary draft of the revised classification will be prepared for early 2003. The Expert Group suggests that regional meetings be organized in 2003 to discuss region-specific needs and their possible reflection in the classification, based on that early draft. The Expert Group agreed that regional meetings are better suited to discuss the classification than one large international meeting. Regional meetings are better suited to address specific needs and may allow more countries to participate. The organization of those meetings should be the responsibility of the regional commissions.

11. After reviewing the outcome of those meetings and additional input received, a pre-final draft of the classification is scheduled for the end of 2004. Evaluation of reactions to the draft should lead to a final draft by mid-2005, which could be presented to the Commission at its thirty-seventh session, in 2006.

12. Following that schedule will allow enough lead time for preparation of the printed publication in 2007 and give countries the opportunity to evaluate their national classifications, data collection and coding schemes, conversion tables etc. before the new international classification goes into effect.

13. There is general agreement that further work on product classifications should lead to a convergence of existing classifications, such as CPC, the Balance of Payments Classification and the Extended Balance of Payments Services Classification. The World Trade Organization should become part of that process to provide better links of those classifications to future versions of the General Agreement on Trade in Services (GATS) Services Sectoral Classification List (GNS/W/120), enabling better measurement of the impact of trade negotiations.

14. Throughout this period, the United Nations Statistics Division will organize workshops in all regions to promote the new classifications, gather additional input from countries and further actual implementation of the classifications.

3. Convergence of activity classifications

15. On 14 June 2000, a project to study the potential for greater convergence between NACE and NAICS was initiated under an agreement signed by the heads of the statistical agencies of Canada, the European Union and the United States. The agreement outlines a multi-phase approach, beginning with a study of

concepts and existing differences in the respective classifications, the generation of possible scenarios for convergence, consultation with user communities and finally recommendation of a template that could be used for convergence. A modular approach is being used during the life of the project. After the completion of each step, a review will be undertaken to decide whether to proceed with the next step. The United Nations Statistics Division is an observer to the process.

16. Since convergence of activity classifications has been identified as a major goal of the ISIC revision process in 2007, the findings of the above-mentioned project will serve as an important input. The project is currently a process involving the statistical agencies of Europe and North America only. To reach the goal of convergence by 2007, both the relationship of the revision of ISIC and the work on convergence need to be clarified and coordination carried out. There is currently no commitment by either NACE or NAICS to actually implement the changes that would result from the current findings of the convergence study.

17. A report on the progress of the above-mentioned project is also before the Commission (E/CN.3/2002/21). The Commission may wish to provide advice on how the ISIC revision and the work of the convergence group should correlate. Should the ISIC revision:

(a) Proceed on the basis of the structure outlined in document E/CN.3/2002/21?

(b) Be postponed until formal commitment to convergence by NACE and NAICS has been reached?

(c) Proceed mostly independently of the convergence study, with an attempt to merge the outcome of both processes at a later stage?

4. Supporting mechanisms and tools

18. The classifications web site (www.un.org/depts/unsd/class) has proved to be an important tool in disseminating information up-to-date information on classifications and supporting documents. Further restructuring has further facilitated user access to information and online products. Site statistics show that it has become one of the most visited sites within the United Nations Statistics Division.

19. The *Classifications Newsletter* announces new developments, publications and technical materials related to United Nations statistical classifications. It is available in print and in an electronic version, which is published on the classifications web site. The web site also features an automatic subscription to the *Newsletter*, which now disseminates the *Newsletter* to an additional group of about 500 users beyond the standard distribution list.

20. The Classifications Registry, as part of the classifications web site, continues to maintain a current database, with updated versions of the classifications in the custody of the United Nations Statistics Division and recorded problems relating to the implementation of ISIC and CPC drawn from the classifications hotline and other sources. The United Nations Statistics Division issues ad hoc reports to the Technical Subgroup on problems of interpretation and use of classifications recorded in the Registry for discussion at various meetings. Complete information about classifications maintained by the United Nations Statistics Division and relevant rulings, interpretations and proposals are posted on the United Nations web site, and can be searched according to user needs. The web site has been updated to reflect issues related to revision processes in a more direct way. Apart from the regular classification structure, agreed and proposed alternate aggregations will be shown in the Registry.

21. The web site has been extended to show national implementation and national practices for activity and product classifications. Information has been gathered from ad hoc questionnaires and workshops, and will be updated with current information from countries. The extension was made in response to a frequent user request.

22. Through work on the *Manual on Statistics of International Trade in Services*, the correspondence table between the Extended Balance of Payments Services Classification, the Central Product Classification and the General Agreement on Trade in Services Services Sectoral Classification List (GNS/W/120) has been further elaborated. The correspondence is intended to facilitate future statistical comparisons of services domestically produced with those that are internationally negotiated and traded.

23. Following the revision of the Harmonized Commodity Description and Coding System, ISIC and CPC for 2002, a correspondence table has been revised to reflect the links between HS 2002, the Standard

International Trade Classification (SITC, Revision 3), the Central Product Classification, Version 1.1, and the International Standard Industrial Classification of All Economic Activities, Revision 3.1.

5. International Standard Classification of Occupations and International Classification of Status in Employment

24. A study of whether and in which direction the International Standard Classification of Occupations (ISCO-88) needs to be revised will be prepared for discussion at the Seventeenth International Conference of Labour Statisticians, which is expected to take place in October 2003. If the conclusion of the Conference is that a revision is needed and not merely a programme of updating, then a proposal for a revised ISCO may be presented for adoption at the Eighteenth Conference, possibly in 2008.

25. Based on the 1997 review of national practices and experience with status in employment classifications following the adoption of the revised International Classification of Status in Employment (ICSE-93) by the Fifteenth International Conference of Labour Statisticians in 1993, national statistical offices will be invited to carry out small-scale in-depth studies of the classification of contractual situations on the borderline between paid employment and self-employment and of different forms of those two employment situations. It is becoming increasingly clear that the increasing emphasis on "flexible" working arrangements in advanced industrial economies is making it important to be able to produce statistics on the prevalence of a larger number of different contractual situations in such economies as well as in the developing and transition ones.

26. The International Labour Organization has continued to present national statistics according to either the previous or the current versions of the relevant major international classifications — ISIC, ISCO and the International Standard Classification of Education (ISCED) — as a function of the statistics provided by the national statistical offices.

6. International Standard Classification of Education

27. As part of its general work, the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics will continue, in cooperation with member States, to improve the overall understanding and application of the ISCED classification system. In particular, as part of its continuing series of education programme workshops, the Institute will continue to work to improve the application of the ISCED system through the improved mapping of national systems with member States.

28. As stated in the medium-term strategy for 2002 to 2007 of the Institute, it plans to continue to develop international statistical standards with regard to priority new data areas and to upgrade and revise the existing international standard definitions and classifications, in partnership with the competent institutions. The ISCED operational manual and the manual on fields of education and training will be finalized and disseminated widely, together with relevant training material, to assist member States in implementing the revised ISCED with a view to improving the international comparability of educational data.

29. Existing international statistical standards in the areas of science and technology, culture and communication will be revised, as required, as a result of the consultations on policy information needs, and new quality standards will be developed.

30. As to the country operational manual for ISCED-97, a draft version has been initially completed. During 2002, it is anticipated that the draft will be revised to take into consideration the feedback received from member States during the upcoming workshops. In addition, a strategy for consultation with member States and other stakeholders will be developed. It is anticipated that the operational manual will be finalized by and approved at the General Assembly of UNESCO in 2003, and thereafter disseminated accordingly.

31. In January 2000, the Statistical Office of the European Communities (Eurostat) published a fields of education and training manual. The manual is the outcome of a Eurostat project that was carried out in close cooperation with UNESCO and the Organisation for Economic Cooperation and Development but has not yet been adopted by the UNESCO General Conference and thus does not form an integral part of ISCED-97 although it is based on it.

32. The Institute has started a review and consultation process in order to determine the feasibility of formally adopting this classification system as part of the ISCED system. As a first stage of

the consultation strategy, the manual was sent to the Expert Group of International Economic and Social Classifications for its review and comments in 2000. Comments were received from several members and have been summarized. The Institute is in the process of reviewing the results of the first consultation stage, and will begin to develop a strategy in early 2002.

7. International Classification of Activities for Time-Use Statistics

33. The International Classification of Activities for Time-Use Statistics (ICATUS) is intended to serve as a standard for activity classifications for time-use statistics that is applicable to both developed and developing countries. It builds on the existing national and regional classifications and experience of countries. The main consideration taken into account in the development of ICATUS is to enable national statisticians and researchers to delineate more precisely the boundaries of economic and non-economic activities and productive and non-productive activities. It will also facilitate the measurement of all forms of work, including unremunerated work.

34. At the initial stage, the United Nations Statistics Division convened an expert group meeting on time-use classifications from 13 to 16 October 1997; the meeting recommended a two-digit classification. During the second phase, the classification was revised at the 2-digit level and developed into a 3-digit classification. The revisions were based on country experiences in such countries as Nigeria, South Africa and Mongolia. As reported at the thirty-second session of the Statistical Commission, an expert group meeting on methods for conducting time-use surveys, which was convened from 23 to 27 October 2000, reviewed the second version of ICATUS and recommended further revisions. In addition, countries were encouraged to test the draft classification. A third version of ICATUS has since been developed, based on the expert group meeting recommendations and the results of the country tests. That version is presented and discussed in a draft methodological publication prepared by the Division, entitled "Guide to producing statistics on time-use for measuring paid and unpaid work", which will be published in 2002. An update on that work will be submitted to the Commission in 2003, under the agenda item on social statistics.

8. International Classification of Functioning, Disability and Health

35. The International Classification of Functioning, Disability and Health (ICF), previously known as the International Classification of Impairments, Disabilities and Handicaps (ICIDH), provides a unified and standard language and framework for the description of health and health-related states. It contributes to greater comparability of data at the national and international levels by providing standardized concepts and terminology. ICF was developed to address the shortcomings of ICIDH, which is based on a linear model of the consequences of disease. Unlike ICIDH, ICF makes no assumptions about the causal relationships of its components; it moves away from the concept of "consequences of disease" to a "components" approach to human functioning. ICF also incorporates in its model the role of the environment in the disablement process, which is lacking in the original classification. The ICF model is thus conceptually different from the ICIDH model — it is a multidimensional and interactive process in which disablement is seen as a dynamic interaction between on the one hand health conditions and other personal factors (such as age, sex, personality or level of education), and on the other hand social and physical environmental factors.

36. ICF was endorsed by the fifty-fourth World Health Assembly for international use on 22 May 2001.

37. ICF was released in October 2001 at the meeting of heads of World Health Organization (WHO) collaborating centres for the family of international classifications, held in Bethesda, Maryland, from 21 to 27 October 2001. The meeting also identified what future actions need to be taken, who the responsible party is for each action, and the time frame within which the activities are to be carried out. Eight areas were addressed:

(a) Coding guidelines: the discussion raised issues of further refinement of existing coding guidelines to meet the needs of different users;

(b) Implementation: there is a need to monitor experience in the use of ICF, particularly with reference to the different options offered for distinguishing between activity and participation. It was recognized that coding and user guidelines are an integral part of the implementation process;

(c) Training, outreach and dissemination: issues raised during the discussion included the need for appropriate training of various categories of users of ICF to ensure effective implementation of the classification and the need for considerable resources to carry out the training. The need for basic as well as user-specific training was raised;

(d) ICF adaptation for specific purposes: adaptations of ICF should be done only when there is a necessity for it. For example, an adaptation of ICF is being prepared for children and youth. The development of adaptations should be coordinated and approved by WHO;

(e) Measurement: topics raised during the discussion included the development and use of measurement instruments, the need for mapping existing instruments to ICF and the need for information exchange;

(f) The joint use of the International Classification of Diseases and Related Health Problems (ICD) and ICF: it was recognized that the use of both classifications together is important since that would enable the linking of diseases to functioning. However, that is more appropriate in clinical settings than in survey situations;

(g) Maintenance and update process: there is a need to establish a systematic updating mechanism for ICF, keeping in mind, however, the importance of maintaining the stability of the classification;

(h) Organizational issues (coordination of meetings, resources and activities in relation to ICF): it was agreed that future annual meetings should be held jointly for ICF and ICD, and that there is a need to generate resources for ICF dissemination activities.

II. Points for discussion

38. The Commission may wish to respond to the following questions:

(a) When does the Commission wish countries to start using ISIC, Revision 3.1 and CPC, Version 1.1, for international data comparison?

(b) Does the Commission agree with the proposed work plan for the 2007 revisions of ISIC and CPC?

(c) How should the ISIC revision process and the NAICS-NACE convergence process relate to each other? Should the convergence process become a major input into the ISIC revision process even without specific commitment to change by the involved parties?

(d) Does the Commission agree with the strategy to involve countries in the revision process through questionnaires and regional meetings?

Annex

Conclusions and recommendations of the Expert Group on International Economic and Social Classifications at its meeting held in New York from 18 to 20 June 2001

Family of international economic and social classifications

1. The Expert Group noted the work done on the United Nations Statistics Division classifications web site as an important tool for distributing information on classifications.

2. The Expert Group recommended that the family of classifications be enlarged to include classifications for gender, age and marital status, as well as other classifications of the SNA. Some of those classifications may not have an identified custodian but they are widely used and the relevant statistics would benefit from having an international body monitoring the standardization process for them.

3. The Expert Group noted the extreme importance of ensuring the timely availability of classification documents in all official United Nations languages for the implementation process.

4. The Expert Group noted that despite the mechanisms in place, information on international classifications does not always reach all interested national parties. The cooperation of the regional commissions may be necessary to improve the situation.

5. The Expert Group recognized the resource-intensive nature of the work as custodian for international standard classifications, and suggested a review of the resource allocation to the United Nations Statistics Division Classifications Section. The Section is carrying out the different tasks as a coordinating body for the family of classifications, as well as being the custodian for two of its major members, ISIC and CPC, in addition to developing and maintaining other classifications.

6. The Expert Group recognized that cooperation in the field of classifications requires the willingness of custodians to actively participate. The topics of the Expert Group meetings should reflect the interests of the custodians of a larger group of classifications, such as methodological and conceptual classification issues related to their development, revision and implementation. The United Nations Statistics Division has been asked to engage other custodians by actively promoting the discussion topics of the Expert Group meetings.

7. The Expert Group strongly emphasized that custodians of international classifications should contact it when making preparations for revisions of their classifications in order to improve the coordination of such work and broaden the range of expertise that may be consulted. The Expert Group requested the Statistical Commission to bring this to the attention of other custodians as a high priority.

8. The Expert Group recognized that previous work on economic classifications was driven by the country interest and demand of many countries, as well as international and regional bodies. At the same time, the Expert Group has been much less aware of the demands and processes that have generated the international standard social classifications. The Expert Group therefore requested presentations by custodians of social classifications on those issues, including the investigation of national issues for such classifications and their use that have been carried out.

9. The Expert Group reviewed the proposed Classification of Environmental Protection Activities (CEPA) and accepted it as a member of the family of international economic and social classifications. The Expert Group recommended that the Statistical Commission approve CEPA as an international standard.

Update of ISIC and CPC for 2002

10. The Expert Group reviewed the drafts of the updated ISIC, Revision 3.1, and CPC, Version 1.1, and recommended that they be approved by the Statistical Commission as international standards.

11. The Expert Group decided that the following alternate aggregations and special groupings should be included in the ISIC, Revision 3 manual: (a) "Information sector", (b) "Information and communication technology", and (c) "Informal sector"

(high-level aggregation). Alternate aggregations defined in other frameworks, such as the *Tourism Satellite Account*, should be noted and properly referenced in the ISIC manual. The Commission should be asked for an explicit mandate to consider future work on other aggregations, such as "Agri-food sector" or "Energy-related activities", which could be developed into an international standard.

Revision of ISIC and CPC for 2007

12. The Expert Group reviewed and approved the time frames proposed by its Technical Subgroup for the revision of ISIC and CPC for 2007, and asked that the work programme be further elaborated, taking into account the need for the active participation of the Expert Group and all other concerned parties.

13. The Expert Group recognized the importance of an agreed conceptual basis for the revision of ISIC and CPC, and requested that it be given the highest priority for the short-term work programme.

Implementation of classifications

14. The Expert Group agreed that the monitoring and evaluation of the status of implementation of international classifications requires, for each branch in the family of international classifications, information on the relationship between the national classification and the international standard. That information could be used to construct a typology of usages of the international standard classifications. Since tools and measures to support the implementation of the classifications vary according to the type of usage, they should be tailored and targeted accordingly. It also recommended that a set of indicators that summarize the status of worldwide implementation be developed, and that consideration be given to the development of a handbook on the purpose, nature and application of the classifications in the family of international classifications.

15. The Expert Group agreed that bilateral cooperation is an important tool for the implementation of classifications, with the international agencies functioning as moderators and coordinators. It is also necessary that countries specify contact persons/custodians for their respective classification, who should serve as informants for national users of the classifications and as contacts to the international custodians.

Organization of work

16. The Expert Group requested that all materials related to the work of its Technical Subgroup be distributed to the Expert Group for comment.

17. The Expert Group was of the view that it must be closely involved in the process of the ISIC and CPC revision for 2007, and that the discussion of conceptual issues for the revisions must be extended beyond the Technical Subgroup.

18. The Expert Group decided that its Technical Subgroup should establish a list of conceptual issues for the ISIC and CPC revisions at its next meeting; the list should be distributed to the Expert Group for comments and then to a worldwide audience to form a basis for the revision process.

United Nations E/CN.3/2002/21

Economic and Social Council

Distr.: General
8 January 2002

Original: English

Statistical Commission
Thirty-third session
5-8 March 2002
Item 7 (a) of the provisional agenda*
Activities not classified by field: international economic and social classifications

Report on convergence of industrial classifications prepared under an agreement between Statistics Canada, the Office of Management and Budget of the United States of America and the Statistical Office of the European Communities

Note by the Secretary-General

In accordance with a request of the Statistical Commission at its thirty-second session,** the Secretary-General has the honour to transmit to the Statistical Commission a report on the convergence of industrial classifications prepared under an agreement between Statistics Canada, the Office of Management and Budget of the United States of America and the Statistical Office of the European Communities.

* E/CN.3/2002/1.

** See *Official Records of the Economic and Social Council, 2001, Supplement No. 4* (E/2001/24), chap. I, sect. A.

02-21872 (E) 110202

Convergence of industrial classification between NACE and NAICS

Second report of the working group

October 2001

Executive summary

On 14 June 2000, a project to study the potential for greater convergence between the General Industrial Classification of Economic Activities within the European Communities (NACE) and the North American Industry Classification System (NAICS) was initiated under an agreement signed by the heads of the statistical agencies of Canada, the European Union and the United States. The present report outlines a possible scenario for convergence, with associated technical and resource implications.

The working group has developed a "same structure" scenario, with the same 20 major categories at the top of the classification and 379 classes in common, counting classes at all levels of detail, between both classifications. The working group has made no recommendations regarding the adoption of any changes at this time, nor should any aspect of the scenario be construed as a commitment to change by any party.

The scenario presented in the present report represents the best trade-off that can be achieved between cost, in dollar terms and disruption for users, and comparability, according to the opinions of a working group of classification experts. It contains a combination of changes and restructuring that minimizes the impacts on either classification and maximizes comparability between them, while preserving, and in some cases improving an analytically useful framework for industry statistics. At this point, however, the opinions of survey managers, data providers and data users must be sought regarding the costs and benefits of the "same structure" scenario and the other options considered by the working group. The working group believes that the scenario provides a good example of a detailed convergence template for this consultation, and recommends that the next step, assuming that the parties to the agreement wish us to proceed, is to launch a consultation process with stakeholders within our respective jurisdictions.

Introduction

1. On 14 June 2000, a project to study the potential for greater convergence between NACE and NAICS was initiated under an agreement signed by the heads of the statistical agencies of Canada, the European Union and the United States. The agreement outlines a multi-phase approach, beginning with a study of concepts and existing differences in the respective classifications, generation of possible scenarios for convergence, consultation with user communities and finally the recommendation of a template that could be used for convergence. A modular approach is being used during the life of the project. After the completion of each step, a review will be undertaken to decide whether to proceed with the next step. The present report is the second issued under the convergence project.

Benefits of convergence

2. The benefits of convergence are considered by many to be self-evident. However, a brief summary of the potential benefits provides additional context that is vital when considering any future course of action.

3. The comparability of economic statistics across national boundaries is of growing importance in our global economy. For Governments, the ability to observe the impact of a variety of regulatory issues, taxation issues and other policy-based actions on comparably defined groupings of establishments across different countries will provide significant analytical power in support of policy formulation. In the field of international trade, while trade statistics are based on the actual goods or services that cross our borders, comparable data on the units that are making the goods or providing the services are also of significant interest. Most discussions of trade agreements or trade disagreements focus on the impact of an action on domestic industries. The availability of comparable statistics will provide a basis for the assessment of impacts that are made as part of trade negotiations.

4. For business, the ability to compare operating conditions and markets across national boundaries in our global economy is crucial. Statistics produced on the basis of comparably defined groupings of production units will allow businesses to better evaluate a variety of competitiveness factors, such as occupation by industry, industry wage and benefit levels, productivity, inventory levels, order backlogs, capacity utilization, the number of direct competitors, potential customers and suppliers. The greater ability to assess the comparative costs and benefits will have a direct impact on a variety of investment decisions.

5. Comparable statistics on industries will improve the working of credit markets as well. Businesses will have greater access to credit markets and credit providers will be able to more accurately analyse the risk inherent in the provision of credit, particularly to borrowers in other nations. Efficiency enhancements in credit markets increase the efficiency of economies overall.

6. International comparability of industry coding also provides significant benefits to the data-provider community, such as marketing firms, research firms and other compilers of statistics. Those businesses currently try to directly compare prices, employment, skill levels and other variables by industry from a variety of sources, a task made more difficult because of the underlying differences in official government statistics.

Background

7. During the first meetings of the working group, a definition of convergence was discussed. Although the terms of the project referred to convergence, a working definition was not delineated. The convergence working group observed that over the years, continued technical cooperation has improved our understanding of our respective classification systems, which has led to consideration of our differences when independently making changes in NACE or NAICS. Thus, one of the design parameters for NAICS was to strive to ensure that detailed NAICS classes did not cross the boundaries of 2-digit classes in the International Standard Industrial Classification of All Economic Activities (ISIC). Building on current understanding, convergence could be defined on a continuum beginning with changes to NAICS (at the trilateral level) or NACE that would make it easier to reaggregate data compiled under one classification to data complied under the other. Changes to the trilateral level of NAICS may or may not affect detailed national-level industries in Canada, Mexico or the United States. The same situation holds for national versions of NACE. For national variations of both classifications, the mildest form of convergence could involve reaggregation of national details to arrive at comparable groupings. At the other end of the continuum, convergence could mean a fully harmonized structure and nomenclature at the most detailed levels with the same industries, same numbers and identical content.

8. In order to evaluate the range of possible convergence options, the working group first ascertained that there were no fundamental conceptual differences between NACE and NAICS. There was general agreement that adoption of the production function used by NAICS was feasible. In addition, the working group agreed that it was feasible to modify relationships with current product classifications. The North American Product Classification System, currently under development, is a companion to NAICS but does not have a direct industry of origin relationship to NAICS. The Statistical Classification of Products by Activity in the European Economic Community (CPA 1996) does have a direct relationship

with NACE, Revision 1. This relationship would have to be softened. Based on those factors, the range of possibilities was discussed in the first report of the working group (October 2000) and an analysis of the perceived benefits and costs of a variety of options was also included. A brief summary of those discussions will place the balance of the present report in the proper context.

9. In the early 1990s, the parties in this project completed a concordance among the Canadian Standard Industrial Classification (SIC) 1980, the United States SIC 1987 and NACE, Revision 1. The project did provide a better understanding of classifications but did not improve the harmonization of data or lead to a lasting result. The concordance produced was relatively complex and there were numerous "many-to-many" relationships that seriously limited the ability to make precise comparisons of data. The work was extremely valuable and did provide a tool that could be used for comparisons of data, but as noted had considerable shortcomings. The convergence working group acknowledged that and also looked beyond that possibility at convergence options which, through changes to NACE and/or NAICS, would lead to greater comparability by either reducing or eliminating the "many-to-many" relationships or adopting a common structure at a given level. The common structure could involve making changes to NACE and NAICS to adopt a common structure or even keeping the same structure and same numbering system. The changes for reduced or eliminated many-to-many linkages could be done while retaining the autonomy of the individual systems and achieved through reaggregation of classes, in addition to changing the content of some classes to allow better comparisons at any given level. The working group then generated a matrix of possible convergence approaches requiring change to one or both of NACE and NAICS. The matrix covered the analysis of the common structure or reduced many-to-many relationships at the top level, a middle level of 100 classes, a middle level of 300 classes, a hybrid level and the most detailed level.

10. Each of the options was evaluated based on several factors, including the amount of change required (the number of changes required and perceived ability of the working group to resolve the issue), the level of comparability gained, the transparency and ease of use, flexibility in negotiations, tolerance of noise, the level of autonomy available to make either national or regional variations, and finally the ability to maintain any resulting increases in comparability. The initial discussions highlighted the fact that implementation costs would be incurred at varying levels, depending on the path chosen. Significant implementation costs would be incurred by agencies as soon as the content of one lowest-level industry changed. Once surveys are required, the incremental cost for the second or even tenth change is much less than the cost for the first one. Within certain boundaries, multiple changes are not as expensive once the fixed cost for an initial change is required. The cost of changing industry content is significant for all of the parties in the convergence project.

11. To align the highest levels of the classifications, changes in the structure and arrangement of NACE and/or NAICS are necessary. The working group decided that the amount of comparability gained at the highest levels (roughly 20 sectors of NAICS or some combination of those sectors) would be of limited analytical use compared to the cost of recoding units and the disruption to data and time series associated with those changes. For example, the costs of changes required to NAICS and NACE to arrive at a comparable definition of manufacturing were deemed to be greater than the value of having a comparable category as broadly defined as manufacturing, with no additional comparable levels below manufacturing.

12. The working group reviewed mid-level comparability in terms of NACE 3-digit groupings and NAICS 4-digit industry groups. Additional changes beyond those to obtain high-level comparability would be required, and there would be a resulting increase in the amount of disruption to existing data series, offset to some measure by an increase in the amount of comparable data that could be generated. The working group also acknowledged that the degree of change required to both NACE and NAICS would be greatest with a convergence approach that sought to eliminate "many-to-many" relationships at the most detailed level or to apply a common structure at the most detailed level. The detailed level options would provide the greatest comparability of data but at the greatest relative cost to data collectors, data providers, statistical agencies, and public or private data users.

13. The first report concluded that the working group would detail two options on the spectrum of

convergence possibilities: option 1, the adoption by NACE and NAICS of the same structure at the top of the classification down to varying levels of detail across the classification, yielding a common structure of 300 to 400 classes or aggregation levels (hybrid level); and option 2, reduction or elimination of "many-to-many" relationships at the most detailed levels of NACE and NAICS (478 classes that are common to all three NAICS partners). The working group balanced the cost of implementing changes for those options with the improvement in comparability and the ability to maintain comparability in the future when choosing these two options. Option 1 was deemed to be more flexible for the parties. Rather than require strict agreement at a particular level, each area could be evaluated based on the desire for greater comparability. For example, the working group acknowledged that financial systems differ greatly across nations and a higher level agreement would be more appropriate. A similar situation exists for public administration. On the other hand, the working group felt that greater detailed comparability would be desirable for other areas, such as high-technology manufacturing and information.

14. The work is complicated to some extent because of the requirement for NACE to maintain a close relationship with the International Standard Industrial Classification of All Economic Activities of the United Nations. As a result, any potential convergence-related change to NACE could have an impact on ISIC. The United Nations is scheduled to revise ISIC for 2007, but to attempt a convergence study in the current circumstances is like trying to hit a moving target. The project was also constrained because only two of the NAICS partners were signatories to the project. After the initial meeting in Luxembourg in May 2000, Mexico was invited to join the working group and the United Nations Statistics Division was invited to send an observer. In that way, all NAICS partners are part of the process and the United Nations Statistics Division has been kept apprised of the issues and changes that could be provided as inputs for consideration during the scheduled 2007 revision of ISIC.

15. The first step of work under the project required the working group to study and evaluate the similarities and differences between NAICS and NACE. To assist in the analysis of differences and similarities between NAICS and NACE, the working group decided to produce ab initio and to validate a new concordance between the two classifications rather than try to use and reconcile the existing concordance between NACE, Revision 1, Canadian SIC 1980 and the United States SIC 1987. That was a massive undertaking and the result is a comprehensive concordance, fully reviewed and validated by the respective custodians. Even if all other work in the project is suspended, the project will, in that concordance, provide a concrete and valuable deliverable for all concerned. The concordance itself does not change the underlying incompatibilities present in the systems but it does clearly identify our similarities and differences and allows comparison of existing data, albeit imprecise comparison. In addition, the concordance forms the basis for detailing the amount of work necessary to resolve the "many-to-many" relationships at the detailed level. Although technically feasible, resolution of all differences at the most detailed level is not likely.

16. Analyses of differences and similarities between NACE and NAICS were conducted based on that concordance, sector by sector, according to an agreed upon division of labour. The results of those analyses were circulated among working group members and were discussed at the meetings of the working group. At a meeting during November 2000, held in Washington, D.C., participants agreed to the work process and division of labour. At the next meeting, held in February 2001, in Aguascalientes, Mexico, the first batch of analyses was reviewed and preliminary convergence scenarios for the hybrid level option were developed based on those sectors. At the most recent meeting, held in June 2001 in Ottawa, most of the remaining analyses were reviewed and a detailed view of the hybrid level convergence option was developed, which is presented in the present report.

Technical and resource implications of convergence

17. The range of convergence options from the reduction or elimination of "many-to-many" relationships to a completely harmonized nomenclature at the detailed level would require varying levels of resources for successful implementation. Continued technical cooperation requires the lowest level of technical and resource expenditures for periodic meetings to discuss and evaluate classification issues and to share existing and new classification materials and tools, and could result in official concordances of the classifications used by the parties to the agreement.

That level of cost will continue regardless of the outcome of the present project. The reduction or elimination of many-to-many linkages increases costs. At the extreme, the adoption of a fully harmonized system at the detailed level would require significantly greater expenditures and involve data integrity issues. For example, a fully harmonized system would require significant survey activity to properly classify a variety of activities in the new system that are not currently identified at the industry level for both NACE and NAICS. In addition to the resulting time series breaks, there would be costs to recode or renumber business registers, draw new samples based on the redefined industries or classes, generate historical series based on the new structure, recalculate seasonal adjustment factors and carry out similar activities within the statistical systems of the countries. There would also be significant costs for data users and users of the classification that are not part of the statistical system. Third party users, such as mailing list providers, business analysis firms, marketing firms, academics and legislative bodies, would be faced with the costs of updating their products, laws or analysis tools. Overall, those costs would be offset in some measure by the increased ability to directly compare across national and regional lines the industrial structure, output productivity, distribution of occupations by industry and other factors relevant to policy, investment and trade decisions. A problem with costs and benefits is that the benefits will not necessarily accrue to those who bear the cost of implementation. In addition to data integrity costs, the parties to the agreement would lose a certain amount of autonomy to make changes as may prove necessary to meet regional or national classification needs. Because of the relationship between ISIC and NACE, any structural convergence will have to meet an international standard applicable to all nations that has yet to be defined.

18. Although continued technical cooperation leads to a greater understanding of the differences in our various statistics, it does not bring about improvements in the precision of comparison of those statistics. And while there is value in greater understanding, the working group feels that greater comparability is desirable. The fully harmonized system would lead to more comparable data but not fully comparable data because of a variety of technical considerations, such as the application of establishment definitions. Acknowledging that 100 per cent comparability will not be achieved because of such technical considerations as the definition of the establishment, the working group focused on the creation of a scenario that is anticipated to minimize the number of disruptions to existing programmes while obtaining greater comparability and enhancing the relevance of the industry classifications. The resource implications of the scenario are greater than the costs of continued technical cooperation but less than the costs to implement a fully harmonized system at the most detailed levels. The working group also notes that any convergence path should be focused on long-term agreement rather than a point-in-time improvement. It will be hard to justify the costs of change to the existing classifications for convergence if divergence will immediately follow. Changes to the existing systems and a requirement for long-term agreement imply the development of a mechanism to maintain convergence in the future that would involve all of the NAICS partners, as well as the Statistical Office of the European Communities (Eurostat) and possibly the United Nations, depending on the extent of future changes required to classification(s) due to changes in the economies of the signatories. Although that is inherent in the current relationship between NACE and ISIC, a new requirement for agreement by Eurostat or the United Nations would lead to a significant loss of autonomy for NAICS partners. Future negotiations on changes to the classification will become more complex as the number of parties involved increases.

19. Against that background, the working group wishes to present one hybrid-level scenario that represents the results of our analysis and efforts over the past year, as set out below.

The scenario

20. The working group has developed a "same structure" scenario, with the same 20 major categories at the top of the classification and 379 classes in common, counting classes at all levels of detail, between both classifications. Convergence is not pushed down to the same level of detail across the classification, however. In some areas, only the top-level aggregates are the same, while in others there is convergence down to a very detailed level. The end result is a "wavy line" scenario.

21. At this time, the working group does not wish to make any recommendations regarding the coding or numbering system that should be adopted. Whether the converged classes are incorporated into the existing

numbering schemes of both classifications or both classifications adopt a new numbering scheme should be determined after the consultation phase.

22. The scenario implies a few conceptual changes, in particular the adoption by NACE in a pragmatic way of a production process basis for the definition of industry categories and the relaxing of a strict one-to-one relationship between detailed industry classes and classes of the Classification of Products by Activity, the European Union product classification. Although it is not apparent in the structure of the converged classification, the scenario also implies a certain harmonization in the application rules of the classification. For example, the rules regarding vertically integrated operations need to be harmonized. The working group has inventoried those differences and can act upon them if and when a final convergence proposal is developed. In specific terms, the current scenario treats installation and repair and most exceptions to the standard rule for vertical integration according to the NAICS practice.

23. The working group believes that this scenario represents the maximum achievable convergence without introducing truly massive and disruptive changes in either classification. In general, it was produced by moving whole classes, or large identifiable parts of whole classes, into new configurations so as to minimize the amount of detailed recoding of individual records that its implementation would require.

24. The following are the suggested high-level groupings:

Agriculture, forestry, fishing and hunting
Mining
Utilities
Construction
Manufacturing
Wholesale and retail trade
Transportation and storage
Information
Hotels and restaurants
Finance and insurance
Real estate and rental and leasing
Professional, scientific and technical services
Administrative and support services
Education
Health and social services
Arts, entertainment and recreation
Sanitation
Repair and maintenance
Other services
Public administration

25. At this high level of aggregation, there are several important departures from the current structure of both classifications, in particular for NACE. As will often be the case, many of the convergence changes are in fact relevance-enhancing changes that NACE would wish to pursue, with or without convergence, which were adopted earlier in NAICS. Examples include the "Information" and "Professional, scientific and technical services". In the case of "Repair and maintenance", those items were grouped together in NAICS and the working group saw that as a desirable feature for the converged classification. It also provides an alternative solution for NACE class 50, covering the sale and repair of everything automotive, a grouping that was not considered successful by Eurostat. Finally, the scenario implies the adoption by the NAICS countries of a high-level grouping for "Sanitation", an existing NACE grouping. The harmonization of the other high-level groupings can be achieved through a series of more minor changes and moves. The sector descriptions and fully detailed scenarios will be made available to the Commission as background documents.

Work plan and schedule

26. The next phase of the project involves consultation on the variety of paths that could be taken to obtain convergence. Data collectors, data providers and data users should be consulted to determine where on the continuum of convergence possibilities (reaggregation of national level details to full harmonization) they see the best balance of costs and benefits. The scenario presented in the present report represents the best trade-off that can be achieved between cost, in dollar terms and disruption for users, and comparability, according to the opinions of a working group of classification experts. At this point, however, the opinions of survey managers, data providers and data users must be sought regarding the costs and benefits of the "same structure" scenario and the other options considered by the working group. The working group believes that the scenario provides a good example of a detailed convergence template for this consultation, and recommends that the next step, assuming that the parties to the agreement wish us to proceed, is to launch a consultation process with

stakeholders within our respective jurisdictions. One objective would be to enquire what the most useful level of convergence is when taking into account the benefits and costs of each option. Another would be to test the robustness of the scenario to determine whether: (a) data users, data providers and data collectors see the same cost and benefit balance as the working group, and (b) the changes can be feasibly accommodated. The working group could then report in a year's time on how much of the scenario, if any, could be made into a formal convergence template. The results of consultation on the working group scenario and other convergence paths that may be identified and determined to be feasible should result in an accepted definition of convergence and provide greater direction in the development of a formal template for convergence during a later phase of the project. If consultation results in a template requiring changes to the existing classifications, it could form the basis of negotiations between the signatories, the results of which could be fed into the revision process for our respective industry classifications, as appropriate, as well as into the ISIC revision process for 2007. The working group understands that ISIC revision, or lack thereof, will necessarily have an impact on the viability of any template for convergence that requires change to NACE that is in conflict with ISIC.

27. In addition, if a long-term convergence is desired, additional negotiations will be required based on the resulting level of autonomy of NACE and NAICS. If the project is discontinued, the working group should recommend a schedule to formalize the concordance already prepared and a schedule to modify the concordance for future changes in our classifications. If a common structure is proposed, the working group should also recommend maintenance procedures and should agree on how and when future changes to the common structure will be negotiated. If the independence of NAICS and NACE remains (common structure not adopted), plans to maintain agreement should also be recommended that meet the needs of the custodians of the classifications and, to the extent desired, carry forward any increased comparability.